State of California—Health and Human Services Agency
California Department of Public Health

MARK B HORTON, MD, MSPH
Director

ARNOLD SCHWARZENEGGER
Governor

August 19, 2010

Healthcare Providers:

As you are likely aware, California is in the midst of a pertussis epidemic this year. By August 17, 2010, 3,076 cases of pertussis had been reported to the California Department of Public Health (CDPH) in 2010. This is a 7-fold increase from the 434 cases reported through the same date in 2009. Unfortunately, there have been eight pertussis deaths this year in infants less than 3 months of age in California.

Think Pertussis and Treat Early

A common theme among the infant deaths is that pertussis was not typically diagnosed until after multiple visits to outpatient clinics, emergency departments, or other healthcare facilities. CDPH is sending this message to providers to support the timely diagnosis of pertussis. In several cases, the infant's symptoms at the time of examination were not highly suggestive of pertussis and the infants were treated only for nasal congestion or mild upper respiratory infection. By the time these infants developed severe respiratory distress, it was usually too late for any intervention to prevent their tragic deaths.

Pertussis treatment must be instituted EARLY in the course of disease to help in preventing its complications. CDPH is urging all healthcare providers to consider the diagnosis of pertussis in any infant <6 months of age presenting with respiratory symptoms. Infants presenting with a history of respiratory difficulty should be evaluated and treated for pertussis until proven otherwise during the pertussis epidemic.

Remember that infants don't develop significant immunologic protection against pertussis until at least 3 doses of DTaP have been given, which typically doesn't occur until 6 months of age. Even in immunized young infants, it is important to consider the diagnosis of pertussis.

Symptoms of Pertussis

The diagnosis of pertussis in young infants is often delayed because its onset – coryza (runny nose) with little or no fever or cough -- is deceptively mild. These symptoms are followed by coughing spells, often unrecognized, that may lead to apnea, hypoxia and

seizures. Severe pertussis in infants can progress rapidly. Therefore, pertussis should be considered in infants with cough or respiratory illness. Later signs of pertussis may include:

- Coughing fits
- Post-tussive vomiting
- Gagging, gasping
- Facial color changes (blue, purple or red)
- Respiratory distress
- Apnea
- Seizures

However, infants with pertussis may not have all these symptoms or the typical cough or whoop. CDPH urges providers to have a high index of suspicion for pertussis in any infant with respiratory illness.

Diagnosis

Diagnostic testing: Collect specimen from a properly collected nasopharyngeal swab or aspirate and send for culture and/or polymerase chain reaction (PCR).

Blood cell count: Leukocytosis with lymphocytosis (a white blood cell count of ≥ 20,000 cells/mm3 with ≥ 50% lymphocytes) in any young infant with cough illness is a strong indication of pertussis. Almost all fatal cases develop extreme leukocytosis ('leukemoid reaction') with lymphocytosis over 12 or more hours, but this may not be apparent on initial testing. The white blood cell count of infants with suspected pertussis should be monitored.

Pulmonary findings: Pneumonia and pulmonary hypertension are common in severe pertussis. A child co-infected with a common respiratory virus, such as adenovirus or respiratory syncytial virus, may also have air trapping and expiratory wheezing that could mask or delay the diagnosis of pertussis.

Remember early diagnosis and treatment is the key to preventing further deaths due to pertussis.

Reporting:

Please remember to report all confirmed, probable, and suspect cases of pertussis among infants, children, adolescents, and adults to your local public health department within one working day of identification.

Prevention:

Please help protect young infants from exposure to pertussis by implementing the widespread use of Tdap rather than using Td or TT, particularly in women of

childbearing age, postpartum women, adolescents, and other close contacts of infants. Health care facilities should consider policies to encourage vaccination of all close contacts of pregnant women and young infants, including adults over 64 years of age and policies such as visitor screening to prevent exposure of pregnant/postpartum women and newborns to visitors/family members with respiratory illness.

Sincerely,

John Talarico, D.O., M.P.H., Branch Chief
California Department of Public Health
Division of Communicable Diseases
Center of Infectious Diseases
Immunization Branch